

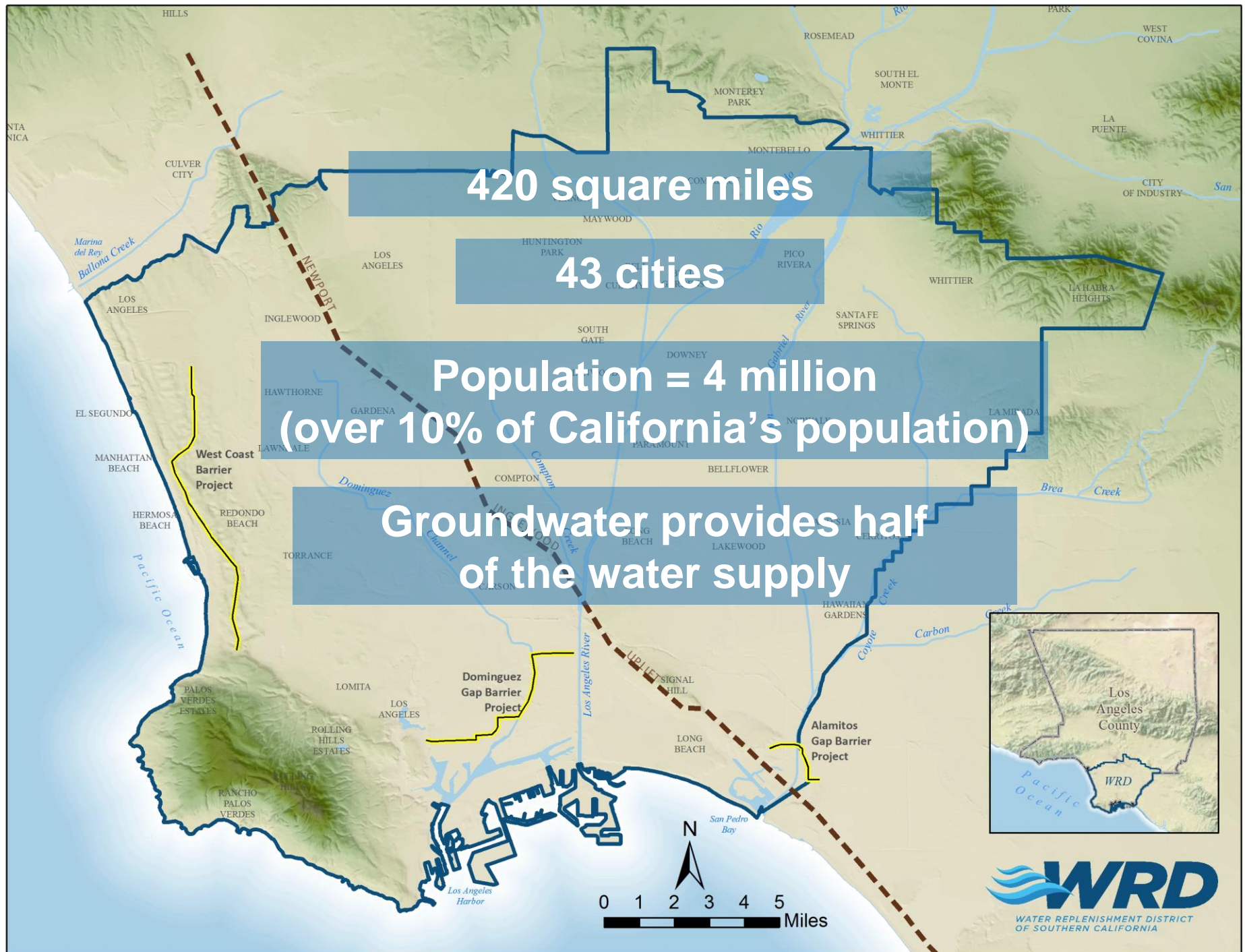


# California's Water Future: Groundwater Management & Storage

*August 31, 2017*





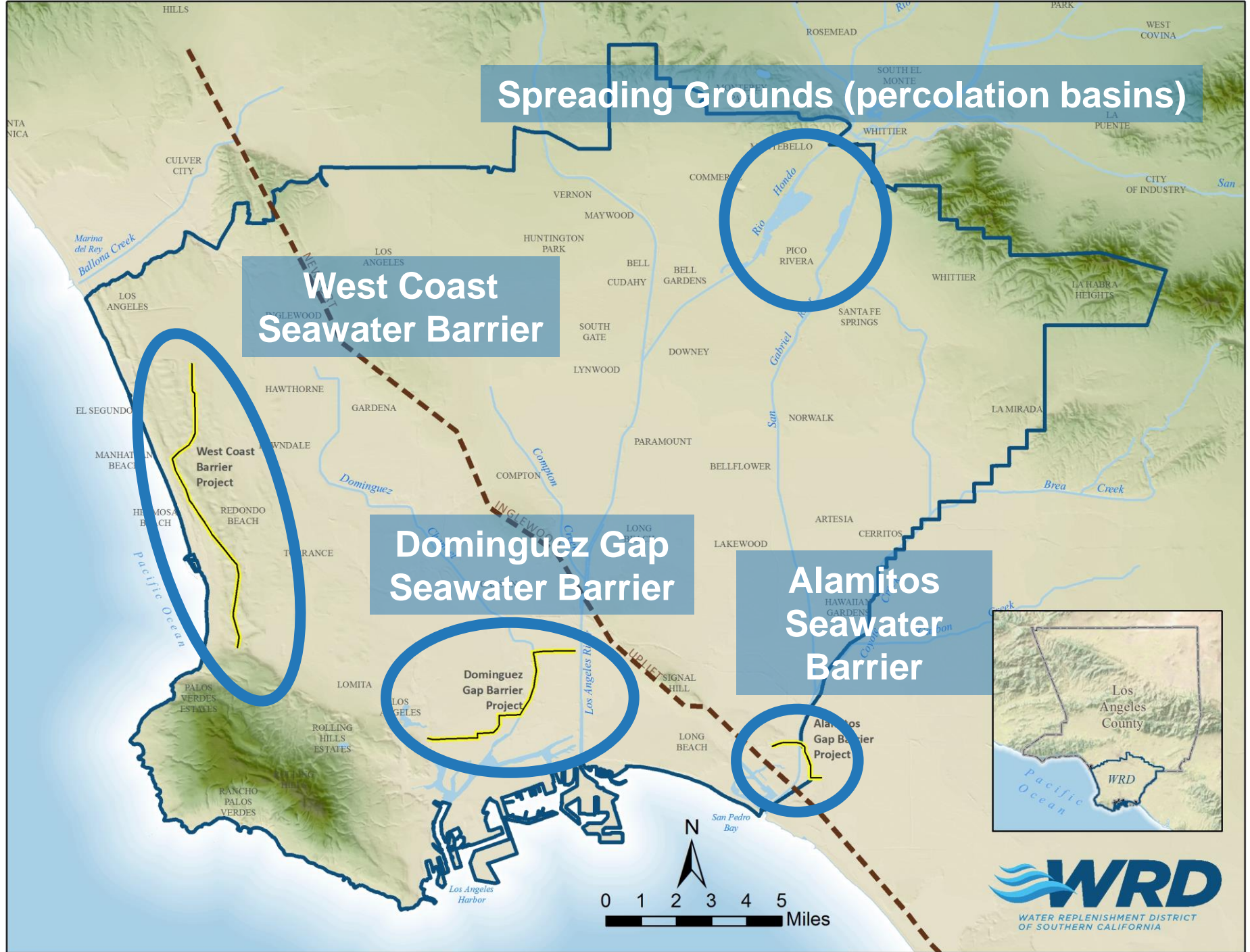


**Spreading Grounds (percolation basins)**

**West Coast  
Seawater Barrier**

**Dominguez Gap  
Seawater Barrier**

**Alamitos  
Seawater  
Barrier**

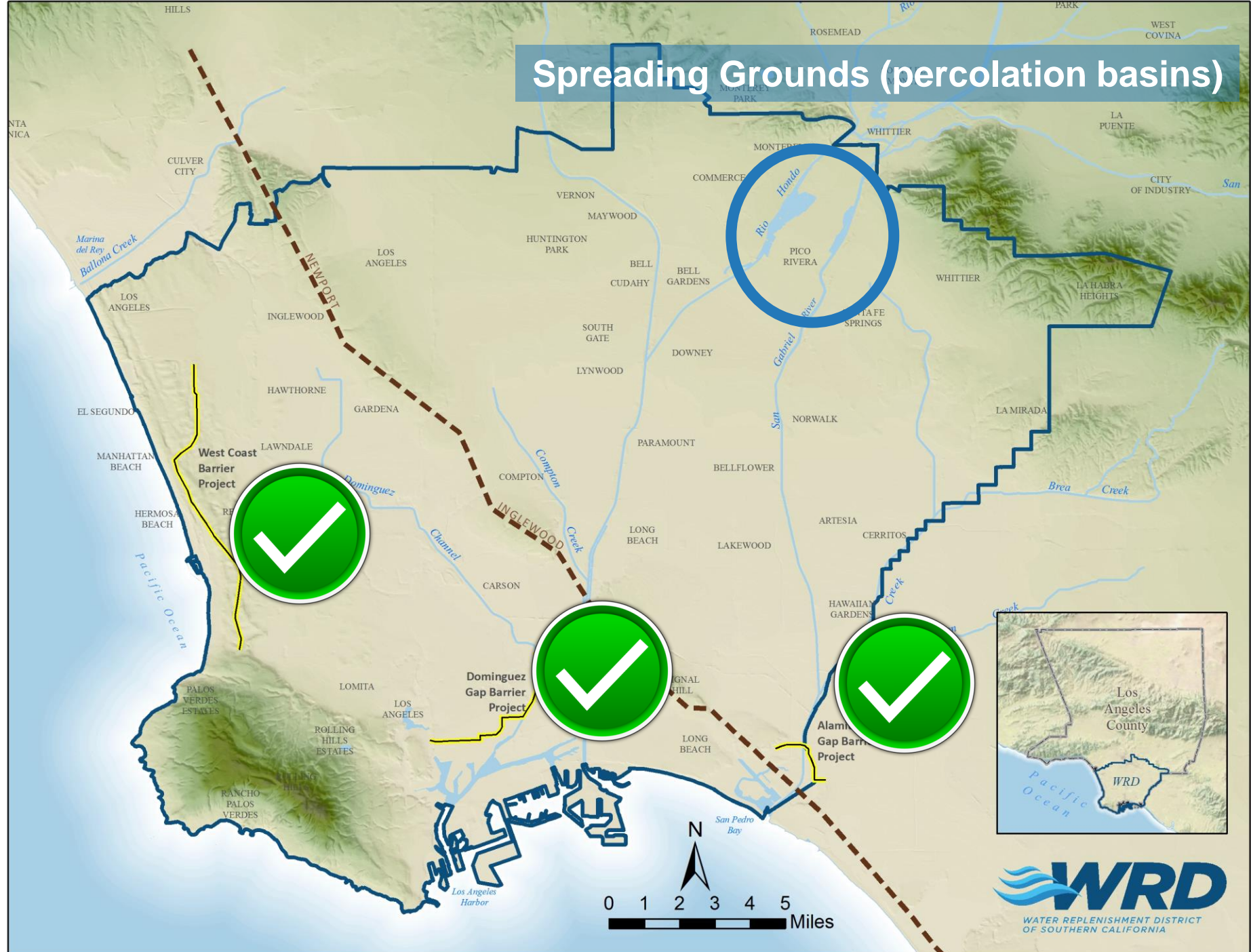






- 💧 **Collection of projects to eliminate WRD demand for imported water**
  - *Capture and conserve additional stormwater*
  - *Increase use of recycled water for groundwater replenishment*
- 💧 **Creates locally sustainable groundwater supply**

# Spreading Grounds (percolation basins)





# L.A. County Replenishment Facilities



Rio Hondo  
Spreading Grounds



San Gabriel River  
Spreading Grounds

# GROUNDWATER RELIABILITY IMPROVEMENT ADVANCED WATER TREATMENT FACILITY

**GRIP IS THE CORNERSTONE  
OF WRD'S WIN PROGRAM**



GROUNDWATER RELIABILITY  
IMPROVEMENT PROJECT



**GRIP WILL PROVIDE 21,000 ACRE-FEET PER YEAR  
OF RECYCLED WATER IN PLACE OF EXPENSIVE  
IMPORTED WATER.**



**UPON COMPLETION, GROUNDWATER BASINS  
WILL BE COMPLETELY LOCALLY SUSTAINABLE**

**SECURING OUR  
WATER FUTURE TODAY**

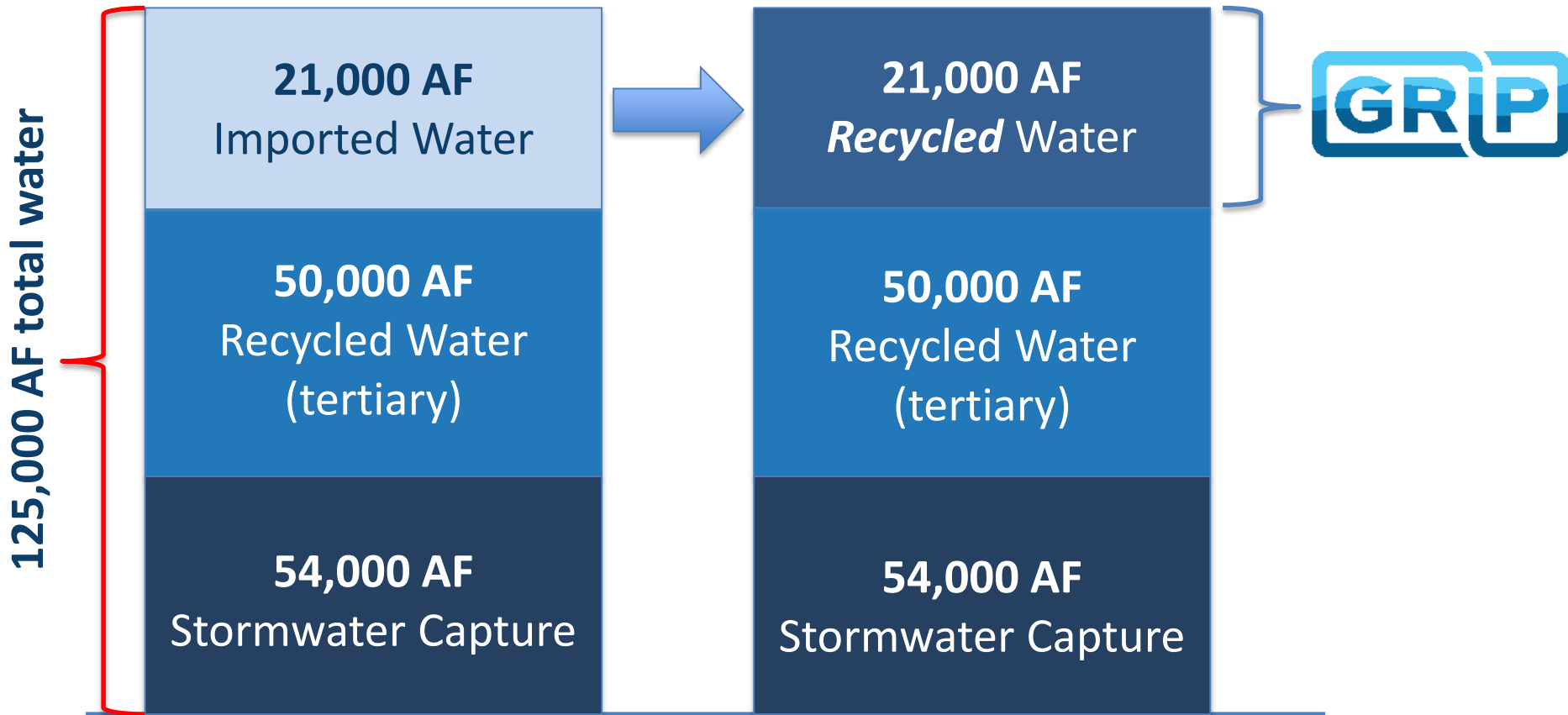
4040 Paramount Boulevard | Lakewood, California 90712



# What is GRIP?



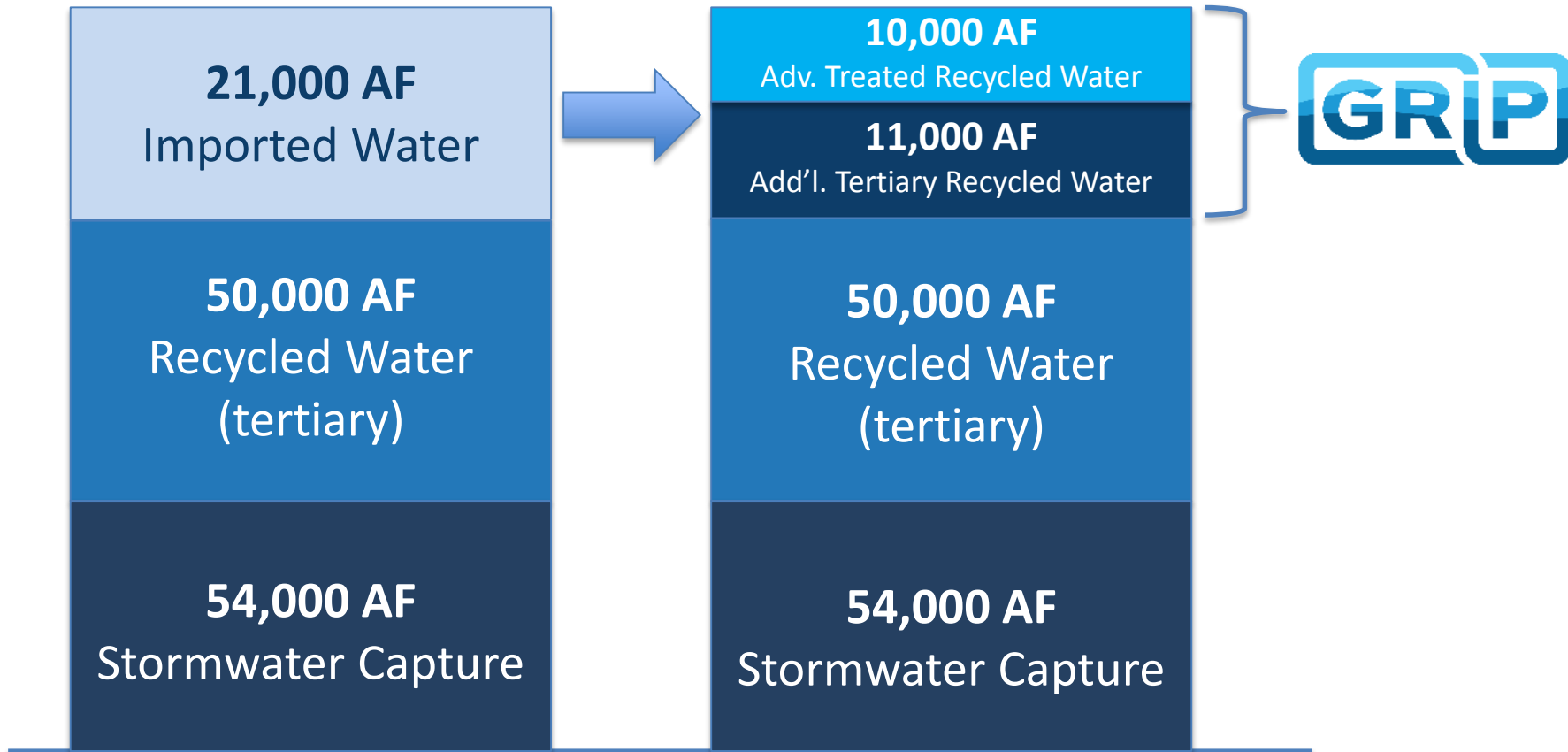
## Status Quo



# What is GRIP?

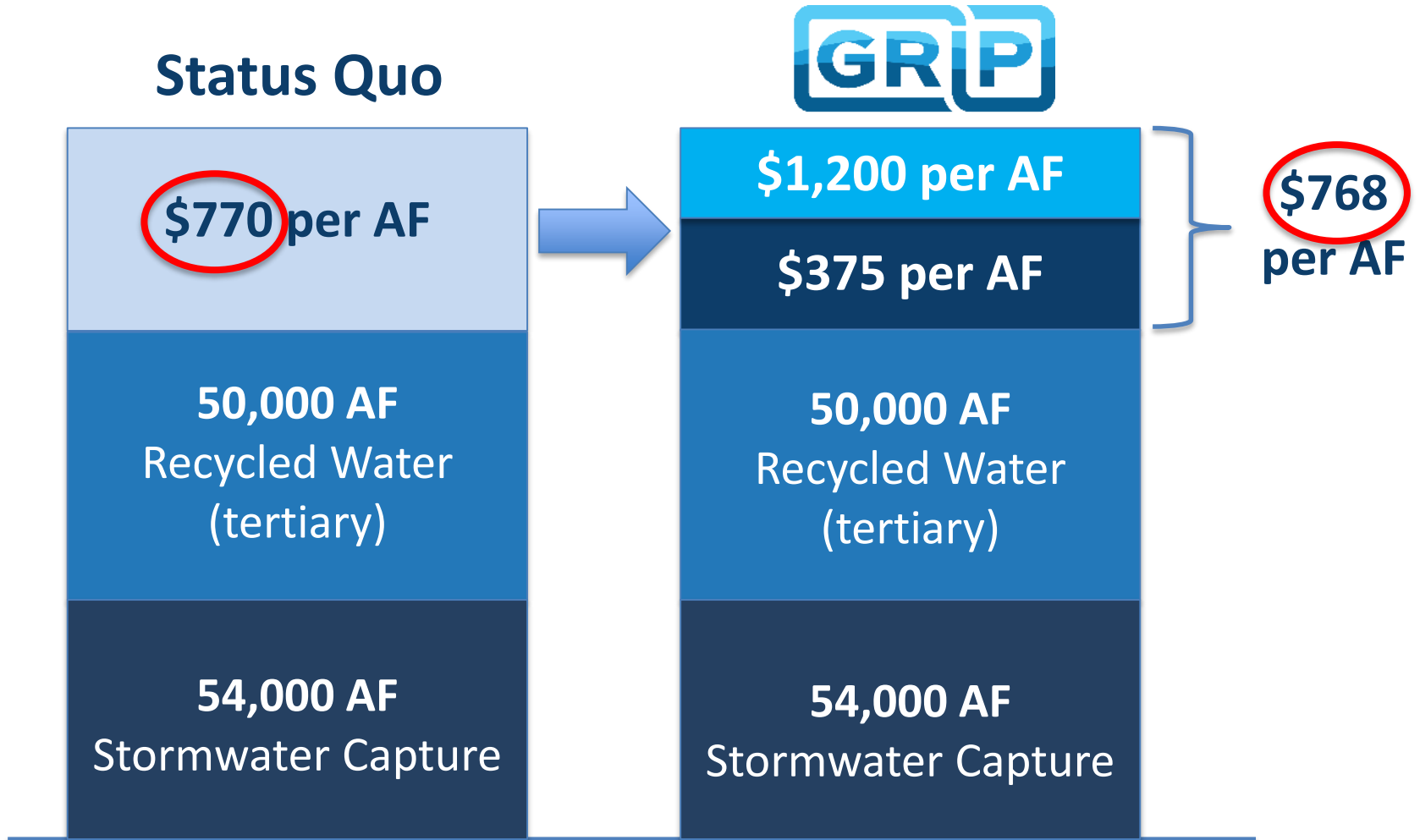


## Status Quo





# What is the Cost of GRIP?



**GRIP site  
(about 1 mile upstream)**

**1 mile**

**San Gabriel Coasting  
Spreading Grounds**





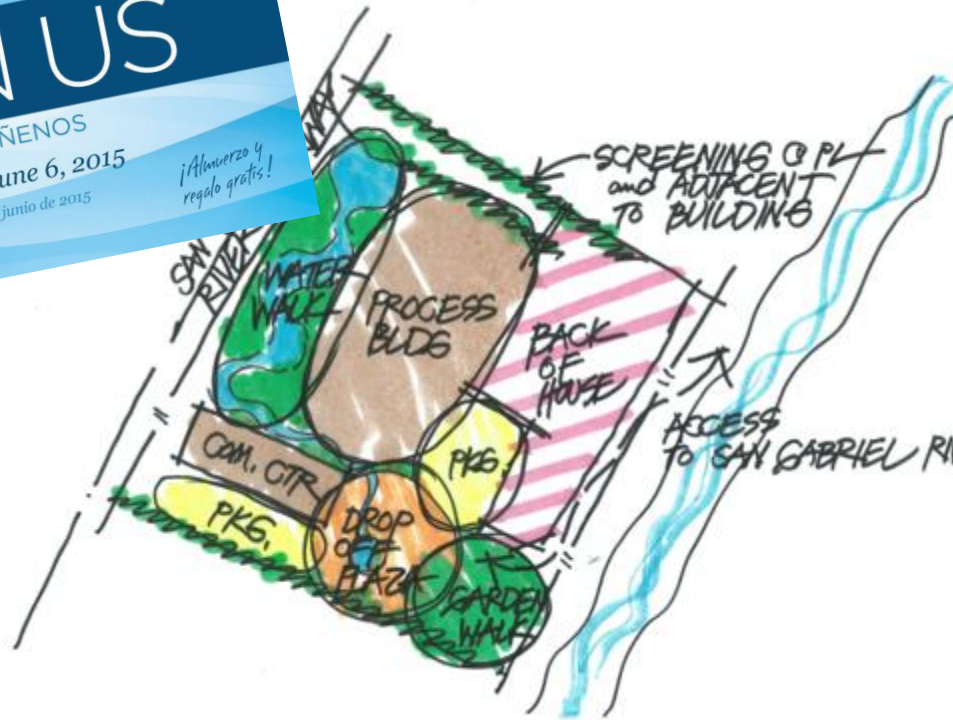
An aerial photograph of an industrial area. A pink line runs diagonally from the top left towards the middle right. A blue arrow points to the right, positioned above the pink line. The industrial area contains several large warehouse-like buildings, parking lots filled with cars and trucks, and some trees. In the foreground, a residential neighborhood with houses and trees is visible across a street.

**Downstream**

**Neighborhood across  
street**



# Held Community Design Forum



## WHEN:

Saturday, June 6, 2015  
11 AM – 2 PM

## WHERE:

Pico Rivera Municipal Golf Course  
3260 Fairway Drive  
Pico Rivera, CA 90660











## GROUNDWATER RELIABILITY IMPROVEMENT PROJECT

- 💧 **GRIP will cost \$107 million**
- 💧 **WRD will receive over \$20 million in grants and also \$80 million in a low-interest, long-term loan financing through Prop 1**
  - ***IRWMP***
  - ***SWRCB***
  - ***RMC***
- 💧 **Grant funding and Prop 1 SRF loan will save WRD \$46 million over 30 years**



# GROUNDWATER RELIABILITY IMPROVEMENT ADVANCED WATER TREATMENT FACILITY



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# GROUNDWATER RELIABILITY IMPROVEMENT ADVANCED WATER TREATMENT FACILITY

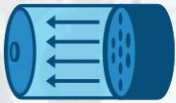
## FULLY ADVANCED TREATMENT (FAT) PROCESS

### MICROFILTRATION



Water is filtered through a fine membrane to remove bacteria and other organisms.

### REVERSE OSMOSIS



Water is directed through high pressure membranes to eliminate salts, viruses, pesticides and most organic compounds.

### ULTRAVIOLET LIGHT AND SODIUM HYPOCHLORITE



The combination accelerates the breakdown of organic compounds.



## PROCESS FACILITY

MICROFILTRATION REVERSE OSMOSIS UV/AOP

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# GROUNDWATER RELIABILITY IMPROVEMENT ADVANCED WATER TREATMENT FACILITY

## OPERATIONS AND LEARNING CENTER



**INTERACTIVE  
LEARNING  
CENTER  
EXHIBITS**



**DEMONSTRATION  
GARDEN**



**LARGE AND  
SMALL MEETING  
SPACES**



**LEED'S  
CERTIFIED**

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# GRIP Construction Progress to Date (view from southwest corner)











# CONSTRUCTION SCHEDULE

APR

MAY

JUN

JUL

AUG

SEP

OCT

NOV

DEC

JUN



DECONSTRUCTION



SUPPLEMENTAL  
RECHARGE WELLS



BRINE DISPOSAL PIPELINE AND  
STREET IMPROVEMENT PROJECT



GROUNDWATER RELIABILITY IMPROVEMENT PROJECT  
ADVANCED WATER TREATMENT FACILITY



BOARD OF  
DIRECTORS



Willard H.  
Murray, Jr.  
Division 1



Robert  
Katherman  
Division 2



John  
D. S. Allen  
Division 3



Sergio  
Calderon  
Division 4



Albert  
Robles  
Division 5

Robb Whitaker  
General Manager



## **Where to go from here - WIN 4 ALL**

- *There is 450,000 AF of unused storage space in the Central and West Coast groundwater basins*
- *Much effort was put into improving the adjudications to access that space*
- *Can use same approach as WIN - use local resources and storage to increase use of groundwater supplies and offset overall demand for imported water*

***Thank You***

**Robb Whitaker, General Manager**



**WATER REPLENISHMENT DISTRICT  
OF SOUTHERN CALIFORNIA**